



# **"Burroughs"** *Electronic*

## **COMPONENTS AND INSTRUMENTS**

SHORT FORM CATALOGUE

BEAM SWITCHING TUBES

NIXIE® INDICATOR TUBES

DECADE COUNTERS

OPTIMETER

VISUAL DECODER

BEAMPLEXER

UNITIZED PULSE CONTROL  
INSTRUMENTS



# COMPONENTS

## beam switching tubes

DISTRIBUTOR  
CONVERTER

COUNTER  
DIVIDER

CODER  
TIMER

DECODER  
SAMPLER

Beam Switching Tubes are 10-position high vacuum electronic tubes. Each tube may replace twenty or more transistors, tubes, or other components since a single cathode controls an electron beam to any one of the ten constant current output positions each with "Automatic" memory and high impedance switching.

### BEAM SWITCHING TUBES CAN:

- switch sequentially or at random.
- be reset from any position in less than 1  $\mu$ sec.
- be preset to any position.
- be interconnected as a distributor of ANY number of positions.
- be operated as a word generator.
- be used as a wide band noise generator to 1000 Mcs.
- operate as a static device or at speeds over 20 Mcs.
- operate compatibly with tubes, transistors, cores and relays.
- directly operate BOTH local and remote Nixie tube readout.
- directly supply outputs of several hundred volts.
- meet severe shock, vibration and temperature requirements.
- meet long life requirements (potential of 10,000-50,000 hours).
- convert binary to decimal and binary to analogue.

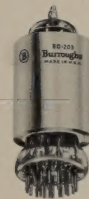
### LITERATURE AVAILABLE

1. BEAM SWITCHING TUBE BROCHURE.
2. CIRCUIT CATALOGUE 57.
3. COMPARISON OF BEAM SWITCHING TUBE WITH TRANSISTOR CIRCUITRY.
4. BASIC BEAM SWITCHING TUBE CIRCUIT DESIGN.
5. LIFE AND RELIABILITY.
6. BINARY TO DIGITAL/ANALOG CONVERSION.
7. BEAM SWITCHING TUBE TESTER.
8. DECADE COUNTER BULLETIN 826.
9. TRANSISTOR CIRCUITS FOR USE WITH BEAM SWITCHING TUBES.
10. MIL-E-1/1058A SPECIFICATION SHEET.

CIRCLE NUMBER ON ATTACHED REPLY CARD.



Shielded General Purpose  
— BD-301  
Shielded Low Voltage  
— BD-308



Miniature — BD-203



Shielded Miniature — BD-316

General Purpose — 6700\*  
Low Voltage — 6701  
High Speed — MO-10R  
High Current — BD-311

\* Available to MIL-E-1/1058A

## NIXIE® indicator tubes

### ALL ELECTRONIC IN-LINE READOUT

The Nixie Tube is a gas-filled, cold-cathode, ten-digit ("0" thru "9") numerical indicator tube having a common anode. It is an all-electronic, in-line readout device which provides an ideal means of converting electro-mechanical or electronic signals directly into readable characters.

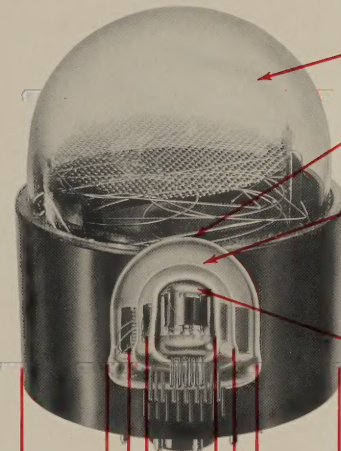
This simple tube contains stacked elements shaped in the form of numbers. Application of a negative voltage to the selected character with respect to a common anode results in its becoming the cathode of a simple gas discharge diode. Only the selected information is visible in a common viewing area because the visual glow discharge is considerably larger than its source.

The device is an unusually efficient electronic-to-visual converter since all of its electrical energy is converted into a neon glow of relatively narrow optical band width. The eye acts as a natural filter in distinguishing this glow in high ambient light.

### LITERATURE AVAILABLE

11. NIXIE INDICATOR TUBE SPECIFICATIONS CATALOGUE.
12. NIXIE INDICATOR TUBE CIRCUIT CHARACTERISTICS AND DESIGN DATA.

CIRCLE NUMBER ON ATTACHED REPLY CARD.



0.650"  
1.080"  
1.350"  
3.125"  
BULB DIAMETERS

Also available in alphabet and special configurations for all sizes.

JUMBO —  
150 feet visibility  
(1) Type B7011  
(BD307)

SUPER —  
75 feet visibility  
(2) Type 7153  
(BD206)

STANDARD —  
40 feet visibility  
(3) Type 6844A  
(4) Type B5023  
(BD204)  
Transistor Operation  
(5) Type B5031  
Ultra Long Life

MINIATURE —  
20 feet visibility  
(6) Type 7009  
(BD200S)  
(7) Type B4021  
(BD244)  
Transistor Operation

# INSTRUMENTS

## decade counters

### VISUAL AND ELECTRONIC ERROR FREE

Burroughs Decade Counters are based on the unique properties of the Beam Switching Tube wherein a single cathode controls an electron beam to 10 outputs. In contrast to other types of counters, the Beam Switching Tube output is directly capable of driving an in-line indicator such as the Nixie Tube. This complete line of six counter types is designed for maximum reliability while providing advanced electrical characteristics not readily obtainable with other components. Such features include:

1. Ultra reliable operations at one megacycle and over — types DC 103 and DC 105.
2. Electronic resetting in less than 1 microsecond — type DC 105.
3. Electrical output in each of its 10 positions — types DC 105, DC 106A and DC 106B.
4. Provisions for BOTH LOCAL AND REMOTE INDICATORS — types DC 105 and DC 106A.
5. Extreme noise insensitivity — type DC 101.
6. Minimum components and power consumption — types DC 106A and DC 106B.

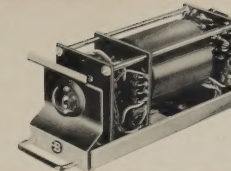
The DC 101, DC 102 and DC 103 are electrically and physically compatible units. These three models comprise a line of counters for general decade counting purposes. Power, input, carry output and reset connections are made through a standard nine pin connector. These units have no provisions for outputs other than Nixie indicator tube readout and a "carry" output for cascading purposes.

Models DC 105, DC 106A and DC 106B make all 10 outputs available through a standard 20-pin connector to drive remote Nixie indicator tubes, printers, reset circuits, etc. All counters use shielded Beam Switching Tubes, modular printed circuit construction and a single 300 volt B+ supply voltage.

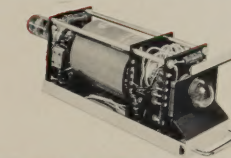
### LITERATURE AVAILABLE

13. BULLETIN 826 — TECHNICAL INFORMATION, SCHEMATICS AND ASSOCIATED CIRCUITS.
14. BULLETIN 826 — SUPPLEMENT NO. 1 — DC 106A AND B.

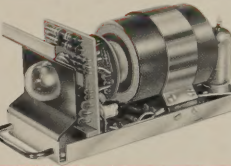
CIRCLE NUMBER ON ATTACHED REPLY CARD.



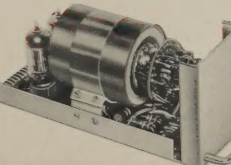
DC 101



DC 102



DC 105  
DC 106A



DC 106B

Postage  
Will be Paid  
by  
Addressee

No  
Postage Stamp  
Necessary  
If Mailed in the  
United States

BUSINESS REPLY CARD  
FIRST CLASS PERMIT NO. 260, PLAINFIELD, N. J.

Burroughs Corporation

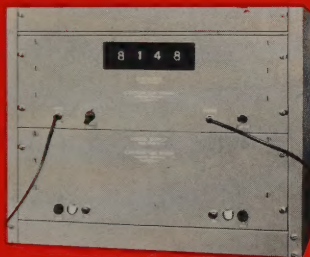
ELECTRONIC TUBE DIVISION

P.O. BOX 1226

Plainfield, New Jersey



## optimizer



The Optimizer uses Beam Switching Tubes to count, store, and sample at predetermined intervals. It has the ability to sample high-speed information without stopping the count or losing the original data.

The design of this versatile unit allows visual storage display on the Burroughs' Nixie in-line numerical indicator tube and direct operation of most standard printout devices.

### LITERATURE AVAILABLE

15. OPTIMIZER SPECIFICATIONS.  
16. (ARTICLE) THE COUNTER WITH A DIFFERENCE.  
CIRCLE NUMBER ON ATTACHED REPLY CARD.

## visual decoder



The Visual Decoder converts high speed binary pulses directly to digital display on Nixie indicator tubes. This all-electronic instrument was designed for air traffic control and is capable of performing the decoding operation in less than one microsecond.

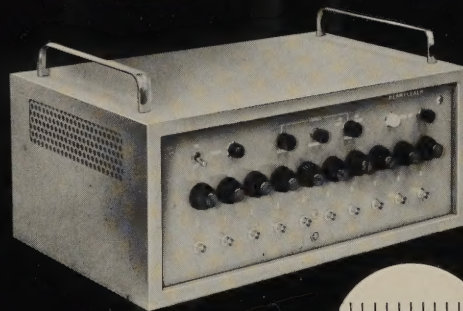
The Beam Switching Tube-Nixie indicator tube combination has the advantages of performing the decoding directly with (1) the fewest of components, (2) high-speed access time, (3) inherent memory, (4) direct operation of Nixie indicator tube.

### LITERATURE AVAILABLE

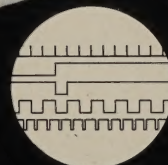
17. VISUAL DECODER SPECIFICATIONS.  
18. BINARY TO DIGITAL/ANALOG CONVERSION.  
CIRCLE NUMBER ON ATTACHED REPLY CARD.

## beamplexer

The Beamplexer is a high speed, ten-position electronic switch utilizing the Beam Switching Tube. It provides a means of displaying up to ten separate channels of information on a conventional single-beam oscilloscope. Dual controls on each input channel allow individual positioning and amplifications.

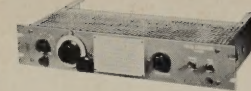


Model 6001/7004



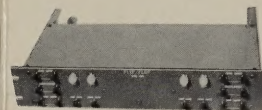
### LITERATURE AVAILABLE

19. BEAMPLEXER SPECIFICATIONS.  
CIRCLE NUMBER ON ATTACHED REPLY CARD.



1006

Push button to 4.5 mc pulse generator



1105

2.5 mc twin flip-flop



1201

2.5 mc twin coincidence detector



1301

10-80,000 usec pulse delay



1751

megacycle variable scale counter  
microsecond reset

## unitized pulse control instruments

Burroughs offers the most complete line of matched pulse handling units performing basic functions. They are designed to be interconnected to form an unlimited variety of pulse systems — in a matter of minutes.

### LITERATURE AVAILABLE

20. BURROUGHS UNITIZED PULSE CONTROL INSTRUMENTS CATALOGUE.  
21. (ARTICLE) WHAT PULSES CAN DO FOR YOU.  
22. BCT 301 CORE TESTER.  
23. PULSE PATTERNS FOR TESTING CORES.  
24. PULSE PATTERNS FOR TESTING RELAYS.

CIRCLE NUMBER ON ATTACHED REPLY CARD.

ELECTRONIC CONTRIBUTIONS BY  
**Burroughs Corporation**

ELECTRONIC TUBE DIVISION  
Plainfield, New Jersey

**Burroughs Corporation**

ELECTRONIC TUBE DIVISION  
Plainfield, New Jersey

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DAYTON 9, OHIO

BULK RATE  
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**PAID**  
PLAINFIELD, N. J.  
PERMIT NO. 260

(TEAR-OFF BUSINESS REPLY CARD)

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